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Aylesbury Vale Local Plan
Land around Aylesbury -
Option A (west), Berryfield
Agricultural Land Classification
Semi-detailed Survey
ALC Map and Report
July 1996

Resource Planning Team
Guildford Statutory Group
ADAS Reading

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AGRICULTURAL LAND CLASSIFICATION, REPORT

AYLESBURY VALE LOCAL PLAN
LAND AROUND AYLESBURY - OPTION A (WEST), BERRYFIELD.

Introduction

1. This report presents the findings of a semi-detailed Agricultural Land Classification (ALC) survey of 151.2 hectares of land to the north west of Aylesbury in Buckinghamshire. The survey was carried out during May 1996.

2. The survey was commissioned by the Ministry of Agriculture, Fisheries and Food (MAFF) from its Land Use Planning Unit in Reading in connection with the Aylesbury Vale Local Plan. The results of this survey supersede any previous ALC information for this land.

3. The work was conducted by members of the Resource Planning Team in the Guildford Statutory Group of ADAS. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.

4. At the time of survey, the agricultural land on this site was either in arable crops or permanent grass. The areas of the site shown as Other Land include domestic dwellings towards the east, various tracks and roadways and horse stabling towards the centre of the site.

Summary

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement would be misleading.

6. The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1 below.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% Total site area	% Surveyed Area
3a	22.9	15.2	15.5
3b	124.8	82.5	84.5
Other land	3.5	2.3	-
Total surveyed area	147.7	-	100
Total site area	151.2	100	-

7. The fieldwork was conducted at an average density of slightly less than 1 boring per hectare. A total of 99 borings and five soil pits were described.

8. The land at this site has been classified as Subgrade 3a (good quality) and Subgrade 3b (moderate quality) on the basis of soil wetness, soil workability and soil droughtiness limitations.

9. There are two soil types represented at this site. Over the majority of the site, soil wetness and/or workability are the principal limitations. In these areas, medium to heavy loamy and clayey topsoils and thin upper subsoils overlie slowly permeable clays at shallow to moderate depths in the profile. Slowly permeable horizons cause drainage to be impeded so that land utilisation is restricted. The depth at which these horizons occur determines the severity of the soil wetness restrictions and therefore the ALC grade. In addition, the heavy loam and clay topsoils encountered over much of the site cause soil workability problems insofar as they further restrict the number of days when field working is possible without causing structural damage to the soil.

10. Towards the east and south east of the site, soil wetness and soil droughtiness are equally limiting. The soils commonly comprise medium loamy topsoils and upper subsoils over slowly permeable clays as above, but the lower subsoils become moderately stony. The stone contents of these profiles cause them to be restricted by soil droughtiness as well as soil wetness to Subgrade 3a. Soil droughtiness may affect plant growth and yield in some years.

Climate

11. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

12. The key climatic variables used for grading this site are given in Table 2 below and were obtained from the published 5km grid datasets using standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SP 790 156	SP 785 163
Altitude	m, AOD	75	80
Accumulated Temperature	day°C	1417	1411
Average Annual Rainfall	mm	637	640
Field Capacity Days	days	134	134
Moisture Deficit, Wheat	mm	111	110
Moisture Deficit, Potatoes	mm	104	102

13. The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

14. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (ATO, January to June), as a measure of the relative warmth of a locality.

15. The combination of rainfall and temperature at this site mean that there is no overall climatic limitation. Local climatic factors, such as exposure and frost risk, are not believed to significantly affect the site. The site is climatically Grade 1.

Site

16. The site lies at an altitude between approximately 75 and 80m AOD. The majority of the site is relatively flat. However towards the north west of the site, the land rises slightly. There are no gradients on the site sufficient to affect agricultural land quality.

Geology and soils

17. The published geological information for the site (BGS, 1865) shows the majority of this area to be underlain by Jurassic Kimmeridge Clay. Along the course of the River Thame, which runs close to the south-eastern boundary of the site, river alluvium is mapped as a drift cover. In addition, a band of valley gravel drift deposits is shown passing through part of the eastern section of the site.

18. The published soils information for the site (SSEW, 1983) shows it to be underlain by soils from the Denchworth and Fladbury 1 associations. The Denchworth association, which covers the majority of the site, is described as having, 'slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils. Some fine loamy over clayey soils with slight seasonal waterlogging and some slowly permeable calcareous clayey soils. Landslips and associated irregular terrain locally.' (SSEW, 1983). The Fladbury association soils which are mapped towards the south east of the site, in a similar location to the river alluvium on the geology map are described as, 'stoneless, clayey soils, in places calcareous, variably affected by groundwater. Flat land. Risk of flooding.' (SSEW, 1983). Soils similar to those described above were encountered over the majority of the site, however towards the east and south east, significant stone contents in the subsoil were found which are approximately coincident with the mapped band of valley gravel. These affect the land quality assessment in these parts of the site.

Agricultural Land Classification

19. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1.

20. The location of the auger borings and pits is shown on the attached sample location map and details of the soils data are presented in Appendix III.

Subgrade 3a

21. Land of good quality has been mapped in two units towards the east and south east of the site. Land in these areas is commonly equally limited by soil droughtiness and soil wetness.

22. Soils in these areas are of two main types. The most common, which occurs over the majority of the area mapped as Subgrade 3a comprises a stoneless to very slightly stony (up to 5% v/v total flints) medium clay loam topsoil, which passes to slightly or moderately stony (up

to 25% v/v total flints), gleyed, permeable medium or heavy clay loam, occasionally clay upper subsoil horizons. From between 50 and 75cm these overlie a moderately or very stony (up to 40% v/v total flints) clay or heavy clay loam horizon which was often impenetrable to the soil auger. The pit observation 5p revealed that clays at this depth were slowly permeable. In the same pit observation, the profile became calcareous from 56cm and passed to a moderately stony (25% v/v total flints), calcareous sandy clay loam lower subsoil horizon. This combination of textures and the stone content present in the profile causes these soils to have restricted water availability, such that in the prevailing local climate Subgrade 3a is appropriate on the basis of a soil droughtiness limitation which can affect plant growth and yield. In addition the presence of gleyed and slowly permeable horizons indicates that a drainage impedance is present in these soils. This is sufficient for them to be placed in Wetness Class III given the local climate. Subsequently Subgrade 3a is assigned when the workability of the medium topsoils is taken into account. Soil wetness causes land utilisation to be restricted as it affects the number of days when land work or grazing may occur without causing damage to the soil. It also adversely affects crop growth and development.

23. The second soil type is essentially similar to that described below (para. 25), except that the topsoil is always a medium clay loam and the upper subsoil is a heavy clay loam or non-slowly permeable clay as in the pit observations 1p and 3p. This passes to a slowly permeable clay horizon at or below 38cm which was not the case in the pit observations. In the prevailing local climate these profiles are principally limited by soil wetness to Wetness Class III and subsequently Subgrade 3a when the workability of the medium clay loam topsoils is taken into account. As above soil wetness affects land utilisation.

Subgrade 3b

24. Land of moderate quality has been mapped over the majority of the site in a single mapping unit. Principal limitations to land quality include soil wetness and topsoil workability.

25. The soil profiles in this area commonly comprise a stoneless to very slightly stony (up to 5% v/v total flints), medium or heavy clay loam or clay topsoil which was occasionally gleyed. This commonly passes to a thin, gleyed, similarly stony heavy clay loam or non-slowly permeable clay upper subsoil. This overlies a gleyed and slowly permeable clay which was commonly very slightly stony (up to 5% v/v flints). Pits 1-4 are representative of the Subgrade 3b unit as a whole and show the variability encountered over the site. In the prevailing local climate these soils are principally limited by soil wetness to the extent that Wetness Classes III and IV are appropriate. Where Wetness Class III is assigned, the less workable heavier topsoils (heavy clay loam and clay) mean that these areas are appropriately placed in Subgrade 3b. Where Wetness Class IV is appropriate topsoil workability is less significant as Subgrade 3b is applied in the prevailing local climate with all the topsoils encountered on this site. Soil wetness causes land utilisation to be restricted as described in paragraph 22.

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SOURCES OF REFERENCE

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Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land.*
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Met. Office (1989) *Climatological Data for Agricultural Land Classification.*
Met. Office: Bracknell.

Soil Survey of England and Wales (1983) *Soils of South East England. 1:250 000 Scale.*
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils of South East England. Bulletin No. 15.*
SSEW: Harpenden.

APPENDIX I

DESCRIPTIONS OF THE GRADES AND SUBGRADES

Grade 1: Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2: Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

Grade 3: Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a: Good Quality Agricultural Land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b: Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4: Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5: Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

APPENDIX II

SOIL WETNESS CLASSIFICATION

Definitions of Soil Wetness Classes

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile. Six soil wetness classes are identified and are defined in the table below.

Wetness Class	Duration of waterlogging[1]
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years.[2]
II	The soil profile is wet within 70 cm depth for 31-90 days in most years **or**, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but only wet within 40 cm depth for 30 days in most years.
III	The soil profile is wet within 70 cm depth for 91-180 days in most years **or**, if there is no slowly permeable layer present within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31-90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years **or**, if there is no slowly permeable layer present within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

Assessment of Wetness Class

Soils have been allocated to wetness classes by the interpretation of soil profile characteristics and climatic factors using the methodology described in *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988).

[1] The number of days is not necessarily a continuous period.

[2] 'In most years' is defined as more than 10 out of 20 years.

APPENDIX III

SOIL DATA

Contents:

SOIL PROFILE DESCRIPTIONS: EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a computer database. This uses notations and abbreviations as set out below.

Boring Header Information

1. **GRID REF**: national 100 km grid square and 8 figure grid reference.

2. **USE**: Land use at the time of survey. The following abbreviations are used.

ARA:	Arable	**WHT:**	Wheat	**BAR**:	Barley
CER:	Cereals	**OAT**:	Oats	**MZE**:	Maize
OSR:	Oilseed rape	**BEN**:	Field Beans	**BRA**:	Brassicae
POT:	Potatoes	**SBT**:	Sugar Beet	**FCD**:	Fodder Crops
LIN:	Linseed	**FRT**:	Soft and Top Fruit	**FLW**:	Fallow
PGR:	Permanent Pasture	**LEY**:	Ley Grass	**RGR**:	Rough Grazing
SCR:	Scrub	**CFW**:	Coniferous Woodland	**DCW**:	Deciduous Wood
HTH:	Heathland	**BOG**:	Bog or Marsh	**FLW**:	Fallow
PLO:	Ploughed	**SAS**:	Set aside	**OTH**:	Other
HRT:	Horticultural Crops				

3. **GRDNT**: Gradient as estimated or measured by a hand-held optical clinometer.

4. **GLEY/SPL**: Depth in centimetres (cm) to gleying and/or slowly permeable layers.

5. **AP (WHEAT/POTS)**: Crop-adjusted available water capacity.

6. **MB (WHEAT/POTS)**: Moisture Balance. (Crop adjusted AP - crop adjusted MD)

7. **DRT**: Best grade according to soil droughtiness.

8. If any of the following factors are considered significant, 'Y' will be entered in the relevant column.

MREL:	Microrelief limitation	**FLOOD:**	Flood risk	**EROSN**:	Soil erosion risk
EXP:	Exposure limitation	**FROST**:	Frost prone	**DIST**:	Disturbed land
CHEM:	Chemical limitation				

9. **LIMIT**: The main limitation to land quality. The following abbreviations are used.

OC:	Overall Climate	**AE**:	Aspect	**EX**:	Exposure
FR:	Frost Risk	**GR**:	Gradient	**MR**:	Microrelief
FL:	Flood Risk	**TX**:	Topsoil Texture	**DP**:	Soil Depth
CH:	Chemical	**WE**:	Wetness	**WK**:	Workability
DR:	Drought	**ER**:	Erosion Risk	**WD**:	Soil Wetness/Droughtiness
ST:	Topsoil Stoniness				

Soil Pits and Auger Borings

1. **TEXTURE**: soil texture classes are denoted by the following abbreviations.

S:	Sand	**LS**:	Loamy Sand	**SL**:	Sandy Loam
SZL:	Sandy Silt Loam	**CL**:	Clay Loam	**ZCL**:	Silty Clay Loam
ZL:	Silt Loam	**SCL**:	Sandy Clay Loam	**C**:	Clay
SC:	Sandy Clay	**ZC**:	Silty Clay	**OL**:	Organic Loam
P:	Peat	**SP**:	Sandy Peat	**LP**:	Loamy Peat
PL:	Peaty Loam	**PS**:	Peaty Sand	**MZ**:	Marine Light Silts

For the sand, loamy sand, sandy loam and sandy silt loam classes, the predominant size of sand fraction will be indicated by the use of the following prefixes:

F: Fine (more than 66% of the sand less than 0.2mm)
M: Medium (less than 66% fine sand and less than 33% coarse sand)
C: *Coarse (more than 33% of the sand larger than 0.6mm)*

The clay loam and silty clay loam classes will be sub-divided according to the clay content: **M:** Medium (<27% clay) **H**: Heavy (27-35% clay)

2. **MOTTLE COL**: Mottle colour using Munsell notation.

3. **MOTTLE ABUN**: Mottle abundance, expressed as a percentage of the matrix or surface described.

F: few <2% **C:** common 2-20% **M**: many 20-40% **VM**: very many 40% +

4. **MOTTLE CONT:** Mottle contrast

F: faint - indistinct mottles, evident only on close inspection
D: distinct - mottles are readily seen
P: prominent - mottling is conspicuous and one of the outstanding features of the horizon

5. **PED. COL**: Ped face colour using Munsell notation.

6. **GLEY:** If the soil horizon is gleyed a 'Y' will appear in this column. If slightly gleyed, an 'S' will appear.

7. **STONE LITH**: Stone Lithology - One of the following is used.

HR:	all hard rocks and stones	**SLST**:	soft oolitic or dolimitic limestone
CH:	chalk	**FSST**:	soft, fine grained sandstone
ZR:	soft, argillaceous, or silty rocks	**GH**:	gravel with non-porous (hard) stones
MSST:	soft, medium grained sandstone	**GS**:	gravel with porous (soft) stones
SI:	soft weathered igneous/metamorphic rock		

Stone contents (>2cm, >6cm and total) are given in percentages (by volume).

8. **STRUCT**: the degree of development, size and shape of soil peds are described using the following notation:

degree of development	**WK**: weakly developed **ST**: strongly developed	**MD**: moderately developed
ped size	**F**: fine **C**: coarse	**M**: medium **VC**: very coarse
ped shape	**S** : single grain **GR**: granular **SAB**: sub-angular blocky **PL**: platy	**M**: massive **AB**: angular blocky **PR**: prismatic

9. **CONSIST**: Soil consistence is described using the following notation:

L: loose **VF**: very friable **FR**: friable **FM**: firm **VM**: very firm
EM: extremely firm **EH**: extremely hard

10. **SUBS STR**: Subsoil structural condition recorded for the purpose of calculating profile droughtiness: **G**: good **M**: moderate **P**: poor

11. **POR**: Soil porosity. If a soil horizon has less than 0.5% biopores >0.5 mm, a 'Y' will appear in this column.

12. **IMP**: If the profile is impenetrable to rooting a 'Y' will appear in this column at the appropriate horizon.

13. **SPL**: Slowly permeable layer. If the soil horizon is slowly permeable a 'Y' will appear in this column.

14. **CALC**: If the soil horizon is calcareous, a 'Y' will appear in this column.

15. Other notations
APW: available water capacity (in mm) adjusted for wheat
APP: available water capacity (in mm) adjusted for potatoes
MBW: moisture balance, wheat
MBP: moisture balance, potatoes

SOIL PIT DESCRIPTION

Site Name : AYLESBURY VDLP,OPTION AW Pit Number : 1P

Grid Reference: SP78701640
Average Annual Rainfall : 637 mm
Accumulated Temperature : 1417 degree days
Field Capacity Level : 134 days
Land Use : Peas
Slope and Aspect : 2 degrees SE

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 24	C	10YR42 00	0	3	HR	F				Y
24- 37	C	10YR42 00	0	3	HR	C	MDCSAB	FR	M	Y
37- 60	C	25Y 53 00	0	10	HR	C	MDCAB	FM	P	Y
60- 80	C	25Y 51 00	0	3	HR	M	WKCAB	FM	P	Y

Wetness Grade : 3A
Wetness Class : III
Gleying : 24 cm
SPL : 37 cm

Drought Grade :
APW : mm MBW : 0 mm
APP : mm MBP : 0 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : AYLESBURY VDLP,OPTION AW Pit Number : 2P

Grid Reference: SP78601670
Average Annual Rainfall : 637 mm
Accumulated Temperature : 1417 degree days
Field Capacity Level : 134 days
Land Use : Oilseed Rape
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 25	HCL	10YR42 00	0	2	HR					
25- 34	HCL	25Y 42 00	0	2	HR	M	MDCAB	FM	P	
34- 70	C	25Y 51 00	0	2	HR	M	MDCAB	FM	P	

Wetness Grade : 3B
Wetness Class : IV
Gleying : 25 cm
SPL : 25 cm

Drought Grade :
APW : mm MBW : 0 mm
APP : mm MBP : 0 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : AYLESBURY VDLP,OPTION AW Pit Number : 3P

Grid Reference: SP78701580
Average Annual Rainfall : 637 mm
Accumulated Temperature : 1417 degree days
Field Capacity Level : 134 days
Land Use : Wheat
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 29	C	10YR42 00	0	2	HR					
29- 38	C	10YR53 00	0	2	HR	C	MDCSAB	FM	M	
38- 63	C	25Y 53 51	0	2	HR	C	MDCAB	FM	P	
63- 85	C	25Y 61 00	0	10	SLST	M	WKCAB	FM	P	Y

Wetness Grade : 3B
Wetness Class : III
Gleying : 29 cm
SPL : 38 cm

Drought Grade : 3A
APW : 104mm MBW : -7 mm
APP : 106mm MBP : 2 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : AYLESBURY VDLP,OPTION AW Pit Number : 4P

Grid Reference: SP78601630
Average Annual Rainfall : 637 mm
Accumulated Temperature : 1417 degree days
Field Capacity Level : 134 days
Land Use : Cereals
Slope and Aspect : 2 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 25	HCL	25Y 42 00	1	3	HR	C				Y
25- 40	C	25Y 53 00	0	2	HR	C	WKCSAB	FM	P	Y
40- 54	C	25Y 53 00	0	2	HR	M	MDCAB	FM	P	Y
54- 76	C	25Y 52 00	0	2	HR	M	STCAB	FM	P	Y
76-120	HCL	05Y 72 51	0	20	SLST	M	WKCAB	FM	P	Y

Wetness Grade : 3B
Wetness Class : IV
Gleying : 0 cm
SPL : 25 cm

Drought Grade :
APW : mm MBW : 0 mm
APP : mm MBP : 0 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : AYLESBURY VDLP,OPTION AW Pit Number : 5P

Grid Reference: SP79101630 Average Annual Rainfall : 637 mm
Accumulated Temperature : 1417 degree days
Field Capacity Level : 134 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 23	MCL	10YR31 00	0	0						
23- 38	HCL	10YR53 00	0	0		C	MDCSAB	FR	M	
38- 56	C	10YR53 00	0	15	HR	M	MDCAB	FM	P	
56- 85	C	25Y 62 00	0	20	HR	M	MDCAB	FM	P	Y
85- 95	SCL	25Y 53 00	0	25	HR	M	WKCSAB	FM	P	Y

Wetness Grade : 3A Wetness Class : III
Gleying : 23 cm
SPL : 38 cm

Drought Grade : 3A APW : 105mm MBW : -6 mm
APP : 100mm MBP : -4 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Wetness

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SP78501680	OSR	N	2	25	25	4	3B		0		0					WE	3B	
1P	SP78701640	PEA	SE	2	24	37	3	3A		0		0					WE	3A	BORING 22
2	SP78701680	OSR	N	2	20	20	4	3B		0		0					WE	3B	
2P	SP78601670	OSR			25	25	4	3B		0		0					WE	3B	BORING 4
3	SP78401670	OSR	NW	2	28	28	4	3B		0		0					WE	3B	
3P	SP78701580	WHT			29	38	3	3B	104	-7	106	2	3A				WE	3B	BORING 74
4	SP78601670	OSR			25	25	4	3B		0		0					WE	3B	SEE 2P
4P	SP78601630	CER	S	2	0	25	4	3B		0		0					WE	3B	BORING 31
5	SP79201670	PGR	E	2	0	30	4	3B		0		0					WE	3B	
5P	SP79101630	PGR			23	38	3	3A	105	-6	100	-4	3A				WE	3A	BORING 35
6	SP79391670	PGR	E	2	0		2	2	68	-43	68	-36	3B				DR	3B	IMP 40 A/B BDR
7	SP78301660	OSR	NW	2	28	28	4	3B		0		0					WE	3B	
8	SP78501660	OSR	N	1	25	25	4	3B		0		0					WE	3B	
9	SP78701660	PEA			18	18	4	3B		0		0					WE	3B	
10	SP78901660	PGR			0	35	4	3B		0		0					WE	3B	
11	SP79101660	PGR	E	2	25	25	4	3B		0		0					WE	3B	
12	SP79301660	PGR	E	2	0	35	4	3B		0		0					WE	3B	
13	SP78401650	OSR	NW	1	30	30	4	3B		0		0					WE	3B	
14	SP78601650	OSR			18	30	4	3B		0		0					WE	3B	
15	SP78801650	PEA	SE	3	0	25	4	3B		0		0					WE	3B	
16	SP79001650	PGR			23	23	4	3B		0		0					WE	3B	
17	SP79201650	PGR	E	2	0	30	4	3B		0		0					WE	3B	
18	SP79401650	PGR	E	2	0	25	4	3B		0		0					WE	3B	
19	SP78301640	PEA	NW	2	25	25	4	3B		0		0					WE	3B	
20	SP78401640	PEA			28		2	3A	81	-30	83	-21	3B				WD	3A	IMP 55 SEE 5P
21	SP78501638	PEA	SE	2	25	25	4	3B		0		0					WE	3B	
22	SP78701640	PEA	SE	2	0	50	3	3A		0		0					WE	3A	SEE 1P
23	SP78801640	CER	S	2	0	28	4	3B		0		0					WE	3B	
24	SP78921640	PGR			25	25	4	3B		0		0					WE	3B	
25	SP79101640	PGR			25	25	4	3B		0		0					WE	3B	
26	SP79201640	PGR			0	23	4	3B		0		0					WE	3B	
27	SP79301640	PGR			23	40	3	3A		0		0					WE	3A	
28	SP78301630	PEA	N	2	0	28	4	3B		0		0					WE	3B	
29	SP78401630	PEA	SE	1	55	55	2	3A		0		0					WE	3A	
30	SP78501630	PEA	S	3	0	30	4	3B		0		0					WE	3B	
31	SP78601630	CER	S	2	25	25	4	3B		0		0					WE	3B	SEE 4P
32	SP78701630	CER	S	2	28	28	4	3B		0		0					WE	3B	
33	SP78801630	CER	S	2	0	28	4	3B		0		0					WE	3B	
34	SP79001630	PGR			25	25	4	3B		0		0					WE	3B	
35	SP79101630	PGR			25	45	3	3A	113	2	109	5	3A				WE	3A	IMP 95 SEE 5P
36	SP79201630	PGR			25	50	3	3A		0		0					WE	3A	
37	SP79401630	PGR			0	40	3	3A	88	-23	94	-10	3B				WD	3A	IMP 60 SEE 5P

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
38	SP78311621	PEA	SE	1	28	28	4	3B		0		0					WE	3B	
39	SP78401620	CER	S	2	20	20	4	3B		0		0					WE	3B	
40	SP78501620	CER	S	1	0	35	4	3B		0		0					WE	3B	BORDER 3A
41	SP78701620	CER	S	1	0	30	4	3B		0		0					WE	3B	
42	SP78901620	CER	S	1	0	30	4	3B		0		0					WE	3B	
43	SP79101620	PGR			0	20	4	3B		0		0					WE	3B	
44	SP79111618	PGR			0	45	3	3B		0		0					WE	3B	BORDER 3A
45	SP79281618	PGR			20	40	3	3A		0		0					WE	3A	
46	SP79401620	PGR			25	45	3	3A		0		0					WE	3A	
47	SP79521619	CER			30	30	4	3B		0		0					WE	3B	
48	SP78401610	CER			30	30	4	3B		0		0					WE	3B	
49	SP78601610	CER			28	28	4	3B		0		0					WE	3B	
50	SP78801610	CER			0	28	4	3B		0		0					WE	3B	
51	SP79031611	PGR			25	33	4	3B		0		0					WE	3B	
52	SP79031611	PGR			0	35	4	3B		0		0					WE	3B	IMP FLINTS 65
53	SP79301610	PGR			0	45	3	3A	99	-12	111	7	3A				WD	3A	IMP 70 SEE 5P
54	SP79401610	PGR			25	50	3	3A		0		0					WE	3A	
55	SP79501610	CER			28	28	4	3B		0		0					WE	3B	
56	SP79601610	CER			25	35	4	3B		0		0					WE	3B	BORDER 3A
57	SP79801610	CER			18	18	4	3B		0		0					WE	3B	
58	SP78501600	CER			25	25	4	3B		0		0					WE	3B	
59	SP78701600	CER			28	28	4	3B		0		0					WE	3B	
60	SP78901600	CER			28	28	4	3B		0		0					WE	3B	
61	SP79161600	PGR			23	55	3	3A	99	-12	110	6	3A				WD	3A	IMP 70 SEE 5P
62	SP79151600	CER			45	45	3	3A	100	-11	112	8	3A				WD	3A	IMP 70 SEE 5P
63	SP79301600	CER			25	37	3	3A	88	-23	94	-10	3B				WD	3A	IMP FLINTS 60
64	SP79401600	CER			32	32	4	3B		0		0					WE	3B	
65	SP79501600	CER			20	20	4	3B		0		0					WE	3B	
66	SP79701600	CER			25	25	4	3B		0		0					WE	3B	
67	SP78601590	CER			30	30	4	3B		0		0					WE	3B	
68	SP78801590	CER			30	30	4	3B		0		0					WE	3B	
69	SP79001590	CER			30	30	4	3B		0		0					WE	3B	IMP FLINTS 95
70	SP79101590	CER			0	25	4	3B		0		0					WE	3B	
71	SP79201590	CER			0	25	4	3B		0		0					WE	3B	IMP FLINTS 55
72	SP79401590	CER			28	40	3	3A	114	3	107	3	3A				WD	3A	IMP 95 SEE 5P
73	SP79601590	CER			25	25	4	3B		0		0					WE	3B	
74	SP78701580	CER			28	40	3	3A		0		0					WE	3A	SEE 3P
75	SP78901580	CER			30	30	4	3B		0		0					WE	3B	
76	SP79101580	CER			28	42	3	3A		0		0					WE	3A	
77	SP79211580	CER			65	65	2	2	133	22	111	7	2				WD	2	SL GLEY 30
78	SP79301580	CER			28	28	4	3B		0		0					WE	3B	
79	SP79501580	CER			23	23	4	3B		0		0					WE	3B	

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
80	SP78601570	CER			28	28	4	3B		0		0					WE	3B	
81	SP78801570	CER			28	28	4	3B		0		0					WE	3B	IMP FLINTS 70
82	SP79001570	CER			0	30	4	3B		0		0					WE	3B	
83	SP79101570	CER			25	25	4	3B		0		0					WE	3B	
84	SP79201570	CER			35	35	4	3B		0		0					WE	3B	IMP 50 BDR 3A
85	SP79301570	CER			28		2	2	70	-41	70	-34	3B				DR	3A	IMP 45 A/B BDR
86	SP79401570	CER			28	28	4	3B		0		0					WE	3B	
87	SP79601570	PGR			24	24	4	3B		0		0					WE	3B	
88	SP78701560	CER			30	55	3	3A	88	-23	96	-8	3B				WD	3A	IMP 65 SEE 5P
89	SP78901560	CER	NW	2	28	35	4	3B		0		0					WE	3B	BORDER 3A
90	SP79101560	CER			35	45	3	3A	133	22	110	6	2				WE	3A	
91	SP79201560	CER			28		2	2	70	-41	70	-34	3B				DR	3A	IMP 45 A/B BDR
92	SP79301560	CER			28		2	2	81	-30	83	-21	3B				DR	3A	IMP 55 SEE 5P
93	SP79501560	PGR			0	55	3	3A	105	-6	110	6	3A				WD	3A	IMP 80 SEE 5P
94	SP79201550	CER			28	28	4	3B		0		0					WE	3B	
95	SP79401550	PGR			25		2	2	90	-21	95	-9	3B				DR	3A	IMP 60 SEE 5P
96	SP79601550	PGR			22	45	3	3A	100	-11	107	3	3A				WD	3A	IMP 80 SEE 5P
97	SP79311540	PGR			22	55	3	3A	103	-8	107	3	3A				WD	3A	IMP 80 SEE 5P
98	SP79501540	PGR			0	50	3	3A	109	-2	108	4	3A				WD	3A	IMP 90 SEE 5P
99	SP79501530	PGR			22	22	4	3B		0		0					WE	3B	IMP FLINTS 95

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	STR	POR	IMP	SPL	CALC	
1	0-25	c	25Y 42 00	10YR58 00	F				0	0	HR	3							
	25-60	c	25Y 53 63	10YR56 00	M			Y	0	0	HR	2		P			Y		
1P	0-24	c	10YR42 00	10YR56 00	F				0	0	HR	3						Y	PSD AT BORING 22
	24-37	c	10YR42 00	10YR56 00	C			Y	0	0	HR	3	MDCSAB FR	M				Y	
	37-60	c	25Y 53 00	10YR58 00	C			Y	0	0	HR	10	MDCAB FM	P	Y		Y	Y	PIT TO 80
	60-80	c	25Y 51 00	10YR66 00	M			Y	0	0	HR	3	WKCAB FM	P	Y		Y	Y	+3% CALC FRAGS
2	0-20	hcl	25Y 42 00	10YR58 00	F				0	0	HR	2							BORDERLINE C
	20-45	c	25Y 51 52	10YR58 00	M			Y	0	0	HR	2		P			Y		
	45-60	c	25Y 52 00	10YR56 00	M			Y	0	0	CH	2		P			Y	Y	CALC FRAGS
2P	0-25	hcl	10YR42 00						0	0	HR	2							AT BORING 4
	25-34	hcl	25Y 42 00	10YR56 00	M			Y	0	0	HR	2	MDCAB FM	P	Y		Y		PLASTIC/HEAVY
	34-70	c	25Y 51 00	75YR56 00	M			Y	0	0	HR	2	MDCAB FM	P	Y		Y		PIT TO 70
3	0-28	hcl	25Y 41 00						0	0	HR	2							
	28-70	c	25Y 52 00	10YR56 66	M			Y	0	0	HR	2		P			Y		
3P	0-29	c	10YR42 00						0	0	HR	2							PSD AT BORING 74
	29-38	c	10YR53 00	10YR56 00	C		10YR52 00	Y	0	0	HR	2	MDCSAB FM	M					PSD
	38-63	c	25Y 53 51	10YR58 00	C		25Y 52 00	Y	0	0	HR	2	MDCAB FM	P	Y		Y		PIT TO 85
	63-85	c	25Y 61 00	10YR58 00	M		25Y 42 52	Y	0	0	SLST	10	WKCAB FM	P	Y		Y	Y	+2% FLINTS
4	0-25	hcl	10YR42 00	10YR56 00	F				0	0	HR	3							SEE 2P
	25-32	hcl	25Y 42 00	10YR56 00	C			Y	0	0	HR	3		P			Y		
	32-60	c	25Y 61 53	10YR58 00	M		00MN00 00	Y	0	0	HR	2		P			Y		
4P	0-25	hcl	25Y 42 00	10YR56 00	C			Y	1	0	HR	3						Y	AT BORING 31
	25-40	c	25Y 53 00	10YR58 00	C		25Y 52 00	Y	0	0	HR	2	WKCSAB FM	P	Y		Y	Y	
	40-54	c	25Y 53 00	10YR58 00	M		25Y 52 00	Y	0	0	HR	2	MDCAB FM	P	Y		Y	Y	
	54-76	c	25Y 52 00	10YR58 00	M		25Y 41 51	Y	0	0	HR	2	STCAB FM	P	Y		Y	Y	
	76-120	hcl	05Y 72 51	10YR68 00	M			Y	0	0	SLST	20	WKCAB FM	P	Y		Y	Y	PIT 85 AUG 120
5	0-20	mcl	10YR41 00	10YR46 00	C			Y	0	0		0							
	20-30	hcl	10YR51 00	10YR46 00	M			Y	0	0		0		M					
	30-65	c	10YR51 00	10YR46 00	M			Y	0	0	HR	2		P			Y		CALC FROM 55
5P	0-23	mcl	10YR31 00						0	0		0							AT BORING 35
	23-38	hcl	10YR53 00	10YR56 00	C		10YR52 00	Y	0	0		0	MDCSAB FR	M					
	38-56	c	10YR53 00	10YR56 00	M		10YR52 00	Y	0	0	HR	15	MDCAB FM	P	Y		Y		
	56-85	c	25Y 62 00	10YR58 00	M		25Y 61 00	Y	0	0	HR	20	MDCAB FM	P	Y		Y	Y	
	85-95	scl	25Y 53 00	10YR58 00	M			Y	0	0	HR	25	WKCSAB FM	P	Y		Y	Y	PIT 90 IMP 95
6	0-25	mcl	10YR42 00	75YR58 00	M		10YR51 00	Y	0	0		0							
	25-40	hcl	10YR41 42	75YR58 00	M			Y	0	0	HR	5		M					IMP FLINTS 40
7	0-28	hcl	25Y 42 00						0	0	HR	2							
	28-70	c	25Y 52 00	10YR56 66	M			Y	0	0	HR	2		P			Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
8	0-25	hcl	25Y 42 52	00MN00	00	F			0	0	HR	2							
	25-55	c	25Y 61 00	10YR66	68	M		Y	0	0		0		P		Y			
	55-70	c	25Y 61 00	75YR58	00	M	00MN00 00	Y	0	0	HR	2		P		Y			
9	0-18	hcl	10YR42 32						0	0	HR	3						Y	BORDERLINE C
	18-45	c	25Y 53 00	10YR56	52	M		Y	0	0	HR	3		P		Y		Y	
	45-70	c	25Y 52 51	10YR56	61	M		Y	0	0	HR	3		P		Y		Y	
10	0-18	mcl	10YR41 42	10YR46	00	C		Y	0	0		0							
	18-35	hcl	25Y 52 00	10YR46	00	M		Y	0	0		0		M					
	35-60	c	25Y 53 00	10YR56	00	M	00MN00 00	Y	0	0		0		P		Y			
	60-70	c	25Y 53 00	10YR56	00	M	00MN00 00	Y	0	0		0		P		Y		Y	
11	0-25	hcl	25Y 42 00						0	0		0							
	25-50	c	25Y 52 53	10YR58	00	C		Y	0	0		0		P		Y		Y	
	50-70	c	25Y 52 53	10YR46	00	C	10YR51 00	Y	0	0		0		P		Y		Y	
12	0-19	mcl	10YR41 42	10YR46	00	C		Y	0	0		0							
	19-35	hcl	10YR52 53	75YR58	00	M		Y	0	0		0		M					
	35-50	c	25Y 51 52	10YR46	00	M	25Y 53 00	Y	0	0		0		P		Y			
	50-70	c	25Y 52 53	10YR56	00	M		Y	0	0		0		P		Y		Y	
13	0-30	hcl	25Y 42 00						0	0	HR	2							BORDERLINE C
	30-55	c	25Y 52 00	10YR56	00	C	00MN00 00	Y	0	0	HR	2		P		Y			
	55-70	c	05Y 41 00	10YR56	00	M	00MN00 00	Y	0	0	SLST	5		P		Y		Y	
14	0-18	hcl	10YR42 00						0	0	HR	3							
	18-30	hcl	25Y 53 00	10YR56	00	M		Y	0	0	HR	5		M					
	30-60	c	25Y 53 51	10YR56	68	M		Y	0	0	HR	5		P		Y			
15	0-25	c	10YR42 00	10YR56	00	C		Y	0	0	HR	3						Y	
	25-60	c	25Y 52 62	10YR56	00	M		Y	0	0	HR	2		P		Y		Y	
16	0-23	mcl	10YR42 00	10YR46	00	F			0	0		0							
	23-65	c	25Y 53 00	10YR56	00	C	00MN00 00	Y	0	0		0		P		Y			
	65-85	c	25Y 63 00	10YR68	00	M	00MN00 00	Y	0	0	HR	20		P		Y		Y	
	85-100	c	05Y 51 61	75YR68	00	M	00MN00 00	Y	0	0	HR	10		P		Y		Y	
17	0-15	mcl	10YR42 00	10YR46	00	C		Y	0	0		0							
	15-30	hcl	10YR43 00	10YR46	00	C		Y	0	0		0		M					
	30-40	c	10YR53 00	10YR46	00	M		Y	0	0		0		P		Y			
	40-65	c	25Y 52 00	10YR46	00	M		Y	0	0		0		P		Y			
18	0-25	mcl	10YR41 00	10YR46	00	C		Y	0	0		0							
	25-32	hcl	10YR51 52	75YR58	00	M		Y	0	0		0		P		Y			PLASTIC BORDER C
	32-70	c	25Y 52 00	25Y 56	00	M		Y	0	0		0		P		Y			
19	0-25	hcl	25Y 42 00						0	0	HR	2						Y	
	25-70	c	25Y 52 53	10YR58	00	M	00MN00 00	Y	0	0	HR	5		P		Y		Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
20	0-28	hcl	25Y 42 00						0	0	HR	2							
	28-38	hcl	10YR52 53	10YR58	00	C	00MN00	00 Y	0	0	HR	2		M					
	38-55	hcl	25Y 64 00	10YR56	00	M		Y	0	0	HR	20		M				Y	IMP FLINTS 55
21	0-25	c	10YR41 00						0	0	HR	2						Y	PSD
	25-50	c	25Y 42 00	10YR56	00	C		Y	0	0	HR	2		P		Y		Y	
	50-80	c	25Y 61 00	10YR66	76	M		Y	0	0	SLST	10		P		Y		Y	
22	0-25	hcl	10YR42 00	10YR56	00	C		Y	0	0	HR	3						Y	BORDERLINE C
	25-50	c	25Y 53 00	10YR58	00	M		Y	0	0	HR	3		M				Y	SEE 1P HCL TO 37
	50-70	c	25Y 51 00	10YR58	00	M		Y	0	0	HR	3		P		Y		Y	
23	0-28	hcl	25Y 42 00	10YR56	00	C		Y	0	0	HR	2						Y	BORDERLINE C
	28-60	c	25Y 52 00	10YR66	00	M		Y	0	0	HR	2		P		Y		Y	
24	0-25	mcl	10YR41 42	10YR46	00	F			0	0		0							V FIRM
	25-33	hcl	25Y 42 52	10YR46	56	C		Y	0	0		0		P		Y			BORDERLINE C
	33-55	c	25Y 52 00	10YR58	00	M		Y	0	0		0		P		Y			
	55-70	c	05Y 51 61	75YR68	00	M		Y	0	0	SLST	10		P		Y		Y	
25	0-25	mcl	10YR41 00						0	0		0							
	25-45	c	25Y 52 00	10YR68	00	M	00MN00	00 Y	0	0	HR	3		P		Y			
	45-70	c	25Y 56 63	10YR66	00	M	00MN00	00 Y	0	0	HR	5		P		Y		Y	
26	0-23	mcl	10YR42 00	10YR46	00	C		Y	0	0		0							
	23-70	c	25Y 53 52	10YR58	00	M	00MN00	00 Y	0	0	HR	3		P		Y			
27	0-23	mcl	10YR42 00	10YR46	00	F			0	0		0							
	23-40	hcl	10YR53 00	10YR56	00	C	00MN00	00 Y	0	0		0		M					
	40-70	c	25Y 52 00	10YR58	00	M	00MN00	00 Y	0	0	HR	5		P		Y			SPL NOT CONVINCING
28	0-28	hcl	25Y 42 00	10YR56	00	C		Y	0	0	HR	2						Y	
	28-55	c	25Y 52 53	10YR66	00	M		Y	0	0	HR	2		P		Y		Y	V FIRM
29	0-28	hcl	10YR42 41						0	0	HR	2							
	28-55	c	25Y 42 00	00MN00	00	C			0	0	HR	2		M					NO MOTS VISIBLE
	55-80	c	25Y 52 62	10YR56	00	C	00MN00	00 Y	0	0	HR	2		P		Y		Y	
30	0-30	hcl	25Y 42 00	10YR66	00	C		Y	0	0	HR	2						Y	
	30-50	c	25Y 52 00	10YR66	00	C		Y	0	0	HR	2		P		Y		Y	
	50-70	c	25Y 52 51	10YR56	00	M	00MN00	00 Y	0	0	HR	2		P		Y			NON CALC
31	0-25	c	25Y 42 00						1	0	HR	2						Y	PSD SEE 4P
	25-90	c	25Y 53 52	10YR68	00	C	00MN00	00 Y	0	0	HR	2		P		Y		Y	
	90-100	mzcl	25Y 71 00	10YR68	00	M		Y	0	0	SLST	10		P		Y		Y	
32	0-28	hcl	25Y 42 00						0	0	HR	2						Y	
	28-40	c	25Y 52 00	10YR66	00	C		Y	0	0	HR	2		P		Y		Y	
	40-70	c	25Y 52 51	10YR66	00	C	00MN00	00 Y	0	0	HR	2		P		Y		Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
33	0-28	c	25Y 42 00	10YR66 00	C			Y	0	0	HR	2						Y	
	28-70	c	25Y 52 00	10YR66 00	C			Y	0	0	HR	1		P		Y	Y		
34	0-25	mcl	10YR42 00	10YR46 00	F				0	0		0							
	25-60	c	25Y 53 52	10YR58 68	C		00MN00 00	Y	0	0		0		P		Y			
	60-75	c	25Y 62 61	10YR68 00	M		00MN00 00	Y	0	0	HR	20		P		Y	Y		
	75-100	c	05Y 61 00	10YR68 00	M			Y	0	0	SLST	10		P		Y	Y		
35	0-25	mcl	10YR42 00	10YR46 00	F				0	0		0							SEE 5P
	25-45	hcl	10YR53 00	10YR56 00	C			Y	0	0		0		M					
	45-65	c	25Y 52 00	10YR58 00	M			Y	0	0		0		P		Y			
	65-75	c	25Y 63 62	10YR68 00	M			Y	0	0	HR	10		P		Y	Y		
	75-95	scl	25Y 63 62	10YR68 00	M			Y	0	0	HR	20		P		Y	Y		IMP FLINTS 95
36	0-25	mcl	10YR42 00						0	0		0							
	25-50	hcl	10YR52 00	10YR56 00	C			Y	0	0		0		M					
	50-80	c	25Y 53 00	10YR58 00	M		00MN00 00	Y	0	0	HR	5		P		Y			
37	0-20	mcl	10YR41 42	75YR46 00	M			Y	0	0		0							
	20-40	hcl	10YR51 52	10YR58 00	M			Y	0	0		0		M					
	40-60	c	25Y 53 52	10YR58 00	M		00MN00 00	Y	0	0		0		P		Y			IMP 60 GRAVELLY
38	0-28	c	25Y 41 00						0	0	HR	3							
	28-70	c	05Y 51 61	10YR58 00	M		00MN00 00	Y	0	0	HR	2		P		Y			
39	0-20	hcl	25Y 42 00						0	0	HR	1						Y	
	20-50	c	25Y 62 63	10YR66 00	C			Y	0	0	HR	1		P		Y	Y		V HARD & DRY
	50-70	c	25Y 52 51	10YR68 00	M			Y	0	0		0		P		Y	Y		
40	0-35	mcl	10YR42 00	10YR66 00	C			Y	0	0	HR	1							
	35-60	c	25Y 52 00	10YR66 00	M			Y	0	0		0		P		Y			
41	0-30	hcl	10YR42 00	10YR66 00	C			Y	0	0	HR	2						Y	BORDERLINE C
	30-58	c	25Y 52 00	10YR66 00	M			Y	0	0	HR	10		P		Y	Y		
	58-75	c	25Y 61 00	10YR58 00	M			Y	0	0	HR	2		P		Y	Y		
42	0-30	hcl	10YR42 00	10YR66 00	C			Y	1	0	HR	2						Y	
	30-45	c	25Y 52 00	10YR66 00	C			Y	0	0	HR	2		P		Y	Y		
	45-60	c	25Y 63 00	10YR68 00	M		00MN00 00	Y	0	0	HR	15		P		Y	Y		
	60-80	hcl	25Y 71 00	10YR58 00	M			Y	0	0	SLST	5		P		Y	Y		
43	0-20	hcl	10YR41 42	10YR46 00	C			Y	0	0		0							
	20-80	c	25Y 52 53	10YR58 00	M		00MN00 00	Y	0	0		0		P		Y			
44	0-32	hcl	10YR42 00	10YR58 00	C			Y	0	0		0							
	32-45	c	25Y 44 00	75YR58 00	C			Y	0	0	HR	1		M					SOFT
	45-80	c	10YR53 00	75YR58 00	M			Y	0	0	HR	2		P		Y			

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
45	0-20	mcl	10YR42 00	75YR46 00	F				0	0		0							
	20-40	hcl	10YR53 00	75YR58 00	C			Y	0	0		0		M					
	40-70	c	25Y 53 00	75YR58 00	M		00MN00 00	Y	0	0		0		P		Y			
46	0-25	mcl	10YR42 00	10YR46 00	F				0	0		0							
	25-45	hcl	10YR53 00	10YR56 00	C			Y	0	0		0		M					
	45-80	c	25Y 53 00	10YR58 00	M		00MN00 00	Y	0	0	HR	5		P		Y			
	80-90	c	25Y 51 61	10YR68 00	M		00MN00 00	Y	0	0	HR	10		P		Y			
47	0-30	hcl	10YR42 00						0	0		0							
	30-70	c	25Y 53 00	75YR58 00	M			Y	0	0		0		P		Y			
48	0-30	hcl	10YR41 00						0	0	HR	2						Y	
	30-70	c	25Y 52 53	10YR56 00	C			Y	0	0	HR	2		P		Y		Y	
	70-80	hcl	25Y 61 00	10YR66 00	M			Y	0	0	SLST	10		P		Y		Y	
49	0-28	hcl	10YR42 00						0	0	HR	2							
	28-70	c	25Y 52 51	10YR58 00	M		00MN00 00	Y	0	0	HR	2		P		Y			
50	0-28	hcl	10YR42 00	10YR58 00	C			Y	0	0	HR	2							
	28-70	c	25Y 52 00	10YR58 61	M		00MN00 00	Y	0	0		0		P		Y			
51	0-25	mcl	10YR42 00	10YR46 00	F				0	0		0							
	25-33	hcl	10YR53 00	10YR56 00	C			Y	0	0		0		M					
	33-65	c	25Y 52 00	10YR58 00	M		00MN00 00	Y	0	0		0		P		Y			
	65-70	c	25Y 61 62	10YR68 00	M		00MN00 00	Y	0	0	HR	20		P		Y			IMP FLINTS 70
52	0-25	mcl	10YR42 00	75YR46 00	C			Y	0	0		0							
	25-35	c	10YR42 00	10YR56 00	C			Y	0	0		0		M		Y			SOFT NOT SPL
	35-65	c	25Y 53 00	75YR58 00	M			Y	0	0	HR	2		P		Y			
53	0-30	mcl	10YR42 00	75YR58 00	C			Y	0	0		0							
	30-45	hcl	10YR53 00	75YR58 00	C			Y	0	0		0		M					
	45-70	c	25Y 52 00	75YR58 00	C		00MN00 00	Y	0	0		0		P		Y			
54	0-25	mcl	10YR42 00	10YR46 00	F				0	0	HR	2							
	25-50	hcl	10YR53 00	10YR56 00	C			Y	0	0		0		M					
	50-70	c	25Y 53 52	10YR56 00	M		00MN00 00	Y	0	0	HR	5		P		Y			
	70-80	hcl	10YR52 00	10YR68 00	M			Y	0	0	HR	20		P		Y		Y	
	80-100	scl	10YR63 00	10YR58 68	M			Y	0	0	HR	25		P		Y		Y	
55	0-28	mcl	10YR41 00						0	0	HR	2							
	28-80	c	25Y 52 51	10YR56 58	M		00MN00 00	Y	0	0	HR	5		P		Y			
56	0-25	mcl	10YR43 00						0	0	HR	3							
	25-35	hcl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M					BORDERLINE C
	35-40	c	25Y 53 00	10YR58 00	C			Y	0	0	HR	2		P		Y			
	40-60	c	25Y 52 00	10YR68 51	M		00MN00 00	Y	0	0		0		P		Y			

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	-----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
57	0-18	hzcl	10YR41 42						0	0		0							
	18-60	zc	05Y 51 00 75YR46 56	M				Y	0	0		0		P			Y		
58	0-25	hcl	10YR41 42						0	0	HR	2							
	25-70	c	25Y 53 52 10YR58 00	C			00MN00 00	Y	0	0	HR	2		P			Y		
59	0-28	hcl	10YR42 00						0	0	HR	2							
	28-80	c	25Y 53 51 10YR58 00	C				Y	0	0	HR	2		P			Y		
60	0-28	hcl	10YR42 00						0	0	HR	2							
	28-55	c	25Y 53 00 10YR68 00	C				Y	0	0	HR	2		P			Y		
	55-70	c	25Y 52 61 10YR68 00	M				Y	0	0	HR	2		P			Y		
61	0-23	mcl	10YR42 00 10YR46 00	F					0	0		0							
	23-55	hcl	25Y 52 00 10YR58 00	M			00MN00 00	Y	0	0		0		M					
	55-70	c	25Y 51 61 10YR68 00	M			00MN00 00	Y	0	0	HR	10		P			Y		
62	0-35	mcl	10YR43 00						0	0		0							
	35-45	hcl	10YR53 00 10YR58 00	F					0	0		0		M					
	45-70	c	10YR53 00 75YR58 00	C				Y	0	0		0		P			Y		
63	0-25	mcl	10YR42 00						0	0		0							
	25-37	hcl	10YR42 41 75YR56 00	C				Y	0	0		0		M					
	37-60	c	25Y 53 00 75YR58 00	C				Y	0	0		0		P			Y		
64	0-32	hcl	10YR32 33						0	0	HR	2							
	32-55	c	25Y 52 53 10YR46 00	C			00MN00 00	Y	0	0	HR	2		P			Y		
	55-65	c	25Y 52 53 10YR46 00	C			00MN00 00	Y	0	0	HR	2		P			Y	Y	
65	0-20	hcl	10YR32 00						0	0	HR	3							
	20-35	c	25Y 52 00 10YR56 00	M				Y	0	0	HR	3		P			Y		
	35-45	c	25Y 62 00 10YR58 00	M			00MN00 00	Y	0	0	HR	3		P			Y		
	45-55	c	25Y 62 00 10YR58 00	M			00MN00 00	Y	0	0	HR	8		P			Y	Y	
66	0-25	hcl	10YR42 00						1	0	HR	5							
	25-60	c	25Y 51 00 75YR46 58	M				Y	0	0	HR	5		P			Y		
67	0-30	hcl	10YR42 00						0	0	HR	2						Y	BORDERLINE MCL
	30-65	c	25Y 53 52 10YR58 68	M			00MN00 00	Y	0	0	HR	2		P			Y	Y	
	65-80	c	25Y 61 00 10YR68 00	M				Y	0	0	SLST	10		P			Y	Y	
68	0-30	hcl	10YR41 42						0	0	HR	2							BORDERLINE MCL
	30-80	c	25Y 53 52 10YR58 00	M				Y	0	0	HR	2		P			Y		
69	0-30	hcl	10YR42 00						0	0	HR	2							BORDERLINE MCL
	30-75	c	25Y 53 00 10YR58 68	M				Y	0	0	HR	2		P			Y		
	75-95	c	25Y 61 00 10YR68 00	M				Y	0	0	HR	20		P			Y	Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
70	0-25	hcl	10YR52 00	75YR58 00	C			Y	0	0		0							
	25-70	c	25 Y52 00	75YR56 00	M			Y	0	0	HR	2		P		Y			
71	0-25	hcl	10YR42 00	75YR46 00	C			Y	0	0	HR	3							
	25-55	c	25Y 53 00	75YR58 00	M			Y	0	0		0		P		Y		IMP FLINTS 55	
72	0-28	mcl	10YR43 00						0	0	HR	2							
	28-40	hcl	10YR53 00	10RY46 00	C			Y	0	0	HR	2		M					
	40-75	c	10YR53 00	10YR56 00	M	00MN00	00	Y	0	0	HR	2		P		Y			
	75-85	c	10YR53 52	10YR46 00	M	00MN00	00	Y	0	0	HR	5		P		Y			
	85-95	scl	10YR53 00					Y	0	0	HR	10		M		Y		IMP 95 GRAVELLY	
73	0-25	hcl	10YR42 00						0	0	HR	5							
	25-60	c	25Y 53 00	75YR46 56	M			Y	0	0	HR	5		P		Y			
74	0-28	mcl	10YR41 00						0	0	HR	2						SEE 3P	
	28-40	c	10YR53 54	10YR56 00	C			Y	0	0	HR	2		M					
	40-70	c	10YR53 00	10YR58 00	M	00MN00	00	Y	0	0	HR	2		P		Y			
	70-90	c	25Y 52 00	10YR58 00	M	00MN00	00	Y	0	0	SLST	10		P		Y			
75	0-30	hcl	10YR42 00						0	0	HR	2							
	30-45	c	10YR53 00	10YR56 00	C			Y	0	0	HR	2		P		Y			
	45-90	c	25Y 52 00	10YR58 00	M	00MN00	00	Y	0	0	HR	2		P		Y			
76	0-28	mcl	10YR42 00						0	0	HR	2							
	28-42	hcl	10YR53 54	10YR56 00	C			Y	0	0	HR	2		M					
	42-120	c	25Y 61 52	10YR58 68	M	00MN00	00	Y	0	0	HR	2		P		Y			
77	0-30	mcl	10YR43 00						1	0	HR	5							
	30-45	mcl	10YR54 00	10YR56 00	C			S	0	0	HR	5		M				SLIGHTLY GLEYED	
	45-65	hcl	10YR54 00	10YR56 00	C			S	0	0	HR	5		M				SLIGHTLY GLEYED	
	65-120	c	25Y 52 00	10YR51 68	M	00MN00	00	Y	0	0	HR	5		P		Y			
78	0-28	mcl	10YR43 00						0	0	HR	3							
	28-60	c	25Y 51 00	75YR58 00	M			Y	0	0	HR	5		P		Y			
79	0-23	mcl	10YR42 00						1	0	HR	5							
	23-60	c	25Y 51 00	75YR46 58	M			Y	0	0	HR	10		P		Y			
80	0-28	hcl	10YR42 00						0	0		0							
	28-60	c	10YR42 52	10YR58 00	C			Y	0	0		0		P		Y			
	60-85	c	25Y 53 00	75YR58 00	C			Y	0	0		0		P		Y		PLASTIC C	
81	0-28	hcl	10YR42 00						0	0	HR	2							
	28-70	c	25Y 53 00	75YR58 00	M			Y	0	0	HR	2		P		Y			
82	0-30	hcl	10YR42 00	75YR46 00	C			Y	0	0	HR	2							
	30-70	c	25Y 53 00	75YR58 00	M			Y	0	0		0		P		Y			

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
83	0-25	mcl	10YR43 00						1	0	HR	5							
	25-45	c	25Y 52 00	10YR58 00	M			Y	0	0	HR	5		P		Y			
	45-70	c	25Y 53 61	75YR58 00	M		00MN00 00	Y	0	0	HR	5		P		Y			
84	0-35	hcl	10YR42 00						0	0	HR	2							
	35-50	c	25Y 53 52	75YR58 00	M			Y	0	0	HR	2		P		Y			IMP FLINTS 50
85	0-28	mcl	10YR43 00						2	0	HR	8							
	28-45	hcl	25Y 52 00	10YR58 51	M			Y	0	0	HR	15		M					IMP FLINTS 45
86	0-28	hcl	10YR32 00						1	0	HR	5							
	28-60	c	25Y 52 00	10YR68 51	M			Y	0	0	HR	5		P		Y			
87	0-24	mcl	10YR41 42						0	0	HR	2							
	24-55	c	25Y 41 42	10YR58 00	M		00MN00 00	Y	0	0	HR	5		P		Y			
	55-90	c	25Y 61 71	10YR68 00	M			Y	0	0	SLST	10		P		Y	Y		
88	0-30	mcl	10YR43 00						1	0	HR	5							
	30-45	hcl	10YR41 00	75YR58 00	C			Y	0	0	HR	15		M					
	45-55	hcl	10YR53 00	75YR58 00	C			Y	0	0	HR	25		M					
	55-65	c	10YR53 00	75YR58 00	M			Y	0	0	HR	30		P		Y			IMP FLINTS 65
89	0-28	mcl	10YR43 00						0	0	HR	2							
	28-35	hcl	10YR53 00	10YR58 00	M			Y	0	0	HR	2		M					
	35-60	c	25Y 51 61	75YR58 68	M			Y	0	0	HR	2		P		Y			
90	0-35	mcl	10YR43 00						0	0	HR	2							
	35-45	mcl	10YR53 00	75YR58 00	M			Y	0	0		0		M					
	45-70	c	25Y 61 00	75YR68 58	M			Y	0	0		0		P		Y			
91	0-28	mcl	10YR43 00						1	0	HR	8							
	28-45	hcl	25Y 53 00	10YR66 00	M			Y	0	0	HR	15		M					IMP FLINTS 45
92	0-28	mcl	10YR43 00						1	0	HR	5							
	28-40	hcl	10YR53 00	10YR56 00	M			Y	0	0	HR	10		M					
	40-55	hcl	10YR53 00	10YR68 56	M		00MN00 00	Y	0	0	HR	30		M					IMP FLINTS 55
93	0-22	mcl	10YR41 42	10YR46 00	C			Y	0	0	HR	2							
	22-40	hcl	10YR53 00	10YR58 00	C			Y	0	0	HR	2		M					
	40-55	hcl	10YR53 00	10YR58 00	M			Y	0	0	HR	2		M					
	55-70	c	25Y 53 63	10YR58 68	M			Y	0	0	HR	2		P		Y			
	70-80	hcl	25Y 61 62	10YR58 00	M			Y	0	0	HR	20		M		Y	Y		+20% SLST
94	0-28	mcl	10YR43 00						0	0	HR	3							
	28-60	c	25Y 51 53	75YR68 00	M		00MN00 00	Y	0	0	HR	8		P		Y			
95	0-25	mcl	10YR42 43	10YR46 00	F				0	0	HR	2							
	25-45	hcl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M					
	45-55	hcl	10YR53 00	10YR56 00	C		00MN00 00	Y	0	0	HR	10		M					
	55-60	hcl	25Y 63 53	10YR58 68	M			Y	0	0	HR	40		M					IMP FLINTS 60

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
96	0-22	mcl	10YR42 00	10YR46 00	F				0	0	HR	2							
	22-45	hcl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M					
	45-70	c	10YR53 52	10YR56 00	C		00MN00 00	Y	0	0	HR	2		P		Y			
	70-80	c	25Y 53 63	10YR58 68	M		00MN00 00	Y	0	0	HR	30		P		Y		IMP FLINTS 60	
97	0-22	mcl	10YR42 00						0	0	HR	2							
	22-55	hcl	10YR53 00	10YR56 00	C		00MN00 00	Y	0	0	HR	5		M					
	55-70	c	25Y 52 00	10YR56 00	M		00MN00 00	Y	0	0	HR	10		P		Y			
	70-80	scl	25Y 62 00	10YR68 00	M			Y	0	0	HR	30		M		Y		IMP FLINTS 80	
98	0-25	mcl	10YR42 00	10YR56 00	C			Y	0	0	HR	2							
	25-50	hcl	10YR53 00	10YR58 00	C			Y	0	0	HR	2		M					
	50-75	c	25Y 53 00	10YR56 00	M		00MN00 00	Y	0	0	HR	5		P		Y			
	75-90	c	25Y 52 62	10YR68 00	M		00MN00 00	Y	0	0	HR	20		P		Y		IMP FLINTS 90	
99	0-22	mcl	10YR42 00						0	0	HR	2							
	22-50	c	10YR53 52	10YR58 00	C			Y	0	0	HR	2		P		Y			
	50-65	c	25Y 53 00	10YR58 68	M		00MN00 00	Y	0	0	HR	10		P		Y			
	65-90	c	25Y 53 52	10YR58 68	M		00MN00 00	Y	0	0	HR	20		P		Y		IMP FLINTS 90	